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STUDIES OF CURRENT CIRCULATION  
AT OCEAN WASTE DISPOSAL SITES

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### SIGNIFICANT RESULTS

The following significant results were obtained using satellite-aircraft-drogue techniques to study current circulation at acid and sludge waste disposal sites, 40 miles off the Delaware Coast:

1. The acid waste plume has been observed in NASA's LANDSAT satellite imagery fourteen times ranging from during dump up to 54 hours after dump. Wind, wave and current data are presently being analyzed to determine surface plume movement and dispersion as a function of wind, wave and local currents.
2. The circulation processes at the waste disposal site are highly storm-dominated, with the majority of the water transport occurring during strong northeasters.
3. There is a mean flow to the south alongshore. This appears to be due to the fact that northeasterly winds produce stronger currents than those driven by southeasterly winds and by the thermohaline circulation.
4. During the warm months (May through October), the ocean at the dump site stratifies with a distinct thermocline observed during all summer cruises at depths ranging from 10 to 21 meters.
5. During stratified conditions the near-bottom currents were small. Surface currents responded to wind conditions resulting in rapid movement of surface drogues on windy days. Mid-depth drogues showed an intermediate behavior, moving more rapidly as wind velocities increased.